CLAIMS

1. (currently amended) An apparatus for controlling the composition of gases within a container,

said container including a plurality of walls[[,]] and an opening selected from the group consisting of at least one inlet, at least one outlet, or ~~inlet and outlet~~ combinations thereof,

the apparatus including at least one sensor, at least one controller and at least one gas permeable membrane ~~being adapted~~ to facilitate [[the]] passage there through of different molecules at different rates,

said membrane defining a first region and a second region, [[the]] said first region forming a storage compartment [[being]] for holding cargo and [[the]] said second region defining a gas buffer region, said opening ~~at least one inlet, outlet, or inlet and outlet~~ being in communication with said gas buffer region.

2. (currently amended) An apparatus according to claim 1, wherein said opening ~~at least one of said at least one inlet, outlet, or inlet and outlet~~ includes a valve.

3. (currently amended) An apparatus according to claim 1, wherein said container comprises at least two openings selected from the group consisting of ~~which includes~~ at least two inlets, at least two outlets, or ~~two inlets and outlets~~ combinations thereof.

4. (previously presented) An apparatus according to claim 1, wherein said membrane is selectively permeable.

5. (currently amended) An apparatus according to claim 1, wherein a valve is adapted to open when activated by [[the]] said controller to provide a passage through which gases can move ~~flow into, out of, or into and out of the container~~.

6. (currently amended) An apparatus according to claim 1, wherein [[the]] said controller is adapted to open a valve when a concentration or volume of gas within

[[the]] said container reaches or falls to a specified level.

7. (currently amended) An apparatus according to claim 1, wherein [[the]] said container is a building.

8. (currently amended) An apparatus according to claim 7 wherein [[the]] said building is a cool store.

9. (currently amended) An apparatus according to claim 1, ~~wherein the~~ said apparatus [[is]] adapted ~~to provide an apparatus~~ for a transportation or shipping container, said container being substantially rectangular in shape and including two side walls, a roof, a floor, a rear wall and a front wall where the rear wall provides access into an interior of the container.

10. (currently amended) An apparatus according to claim 1, wherein said combination of inlet and outlet ~~the inlet may be joined with an outlet to provide a bidirectional~~ provides a bi-directional flow means.

11. (currently amended) An apparatus according to claim 1, wherein [[the]] said container comprises at least one bi-directional flow means located at the rear of the container and at least one bi-directional flow means located at the front of the container, and each of said bi-directional flow means [[including]] includes one valve.

12. (currently amended) An apparatus according to claim 1, wherein said ~~selectively permeable~~ membrane is formed from a polymeric film, which is adapted for gas permeation.

13. (currently amended) An apparatus according to claim 12, wherein said polymeric film is [[being]] more permeable to carbon dioxide gas than to oxygen gas.

14. (currently amended) An apparatus according to claim 12, wherein said

polymeric film is affixed to at least a portion of a base, a roof and two sidewalls of [[the]] said container, [[the]] said polymeric film dividing [[the]] said container into [[two]] said first and second regions, [[the]] said first region ~~being adapted as a storage compartment and being~~ located near the front of [[the]] said container, and [[the]] said second region being adapted as a gas buffer region [[being]] located at the rear of said container and near ~~the~~ a door end ~~of the container~~.

15. (currently amended) An apparatus according to claim 12, wherein said polymeric film is located substantially near a rear portion of [[the]] said container.

16. (currently amended) An apparatus according to claim 12,

wherein said combination of inlet and outlet provides at least one bi-directional flow means, and

wherein said polymeric film provides ~~a void or buffering~~ said gas buffer region around ~~at least one~~ said bi-directional flow means which is adapted to control the flow of gas into [[the]] said gas buffer region and to control the flow of [[gases]] gas out of [[the]] said gas buffer region both into [[the]] said storage compartment and completely out of [[the]] said container.

17. (currently amended) An apparatus according to claim 1, wherein said ~~gas permeable~~ membrane is adapted to facilitate [[the]] flow of carbon dioxide gas from [[the]] said first region ~~cargo compartment~~ of the container to ~~the gas~~ said gas buffer region of the container.

18. (currently amended) An apparatus according to claim 1, wherein said ~~gas permeable~~ membrane is adapted to facilitate [[the]] flow of oxygen gas from ~~the gas~~ said gas buffer region of [[the]] said container to [[the]] said first region ~~storage compartment~~ of [[the]] said container.

19. (currently amended) An apparatus according to claim 1, wherein said ~~gas permeable~~ membrane is adapted to allow oxygen gas to flow through [[the]] said

membrane[[,]] ~~provided that the oxygen flow~~ in a direction [[is]] opposite to a carbon dioxide gas flow.

20. (currently amended) An apparatus according to claim 1, wherein [[a]] said at least one sensor located within [[the]] said container [[being]] is adapted to sense [[a]] ~~concentration~~ concentrations, volumes or [[concentration]] concentrations and volumes of carbon dioxide gas, oxygen gas or carbon dioxide and oxygen gases within [[the]] said first region ~~cargo storage compartment~~ of [[the]] said container.

21. (currently amended) An apparatus according to claim 1, [[comprising]] wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a rear end of [[the]] said container, said bi-directional flow means ~~being able to open to allow~~ allowing gas to flow into [[the]] said gas buffer region when in an open configuration.

22. (currently amended) An apparatus according to claim 1, [[comprising]] wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a rear end of [[the]] said container, said bi-directional flow means ~~being able to open an inlet so that~~ allowing gas [[may]] to flow into ~~the cargo~~ said first region of [[the]] said container when in an open configuration.

23. (currently amended) An apparatus according to claim 1, [[comprising]] wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a front end of [[the]] said container, said bi-directional flow means ~~being able to open to allow~~ allowing gas to flow into [[the]] said gas buffer region when in an open configuration.

24. (currently amended) An apparatus according to claim 1, [[comprising]] wherein said combination of inlet and outlet provides at least one bi-directional flow means, said bi-directional flow means located near a front end of [[the]] said container, said bi-directional flow means ~~being able to open an inlet so that~~ allowing gas [[may]] to flow

into ~~the cargo~~ said first region of the container when in an open configuration.

25. (currently amended) A container having a plurality of walls[[,]] and an opening selected from a group consisting of at least one inlet, at least one outlet, or ~~inlet and outlet~~ combinations thereof, ~~including~~ comprising an apparatus for controlling a composition of gases within the container,

[[the]] said apparatus including at least one sensor, at least one controller and at least one gas permeable membrane being adapted to facilitate [[the]] passage there through of different molecules at different rates,

said membrane defining a first region and a second region, [[the]] said first region forming a storage compartment [[being]] for holding cargo and [[the]] said second region defining a gas buffer region,

said opening ~~at least one inlet, outlet, or inlet and outlet~~ being in communication with said gas buffer region and comprising a valve that controls gas flow through said opening.

26. (currently amended) A container according to claim 25, wherein said ~~membrane defines a gas~~ gas buffer region is located on the inside of said container.

27. (currently amended) A container according to claim 25, wherein said ~~membrane defines a gas~~ gas buffer region is located on the [[exterior]] outside of said container.